

Time Critical Diagnosis—Stroke and STEMI System Implementation

Meeting Six, April 7, 2009

ATTENDEES:

Dr. Samar Muzaffar, Department of Health and Senior Services (DHSS); Paula Adkison, DHSS; Tony Adams, HCA Midwest Healthcare; Mark Alexander, CoxHealth; Dr. Lynthia Andrews, Heartland Regional Medical Center; Dr. Clara Applegate, Ozark Medical Center; Lisa Archer, Northeast Regional Medical Center; Dr. Richard Bach, Washington University School of Medicine; Laura Bailey, Jefferson Regional Medical Center; Chip Balk, Physio Control; Dave Barringhaus, Physio-Control; Jack Bates, Air Evac Lifeteam; Carol Beal, St. John's Regional Health Center; Anita Berwanger, DHSS; Nancy Bettasso, St. John's Regional Medical Center; Linda Black, Pike Memorial County Hospital; Linda Brown, Southeast Missouri Hospital; Terry Buddemeyer, Washington Area Ambulance District; Jo-Ann Burns, Barnes-Jewish Hospital; Chris Byrd, Southeast Missouri Hospital; Dr. W. Stephen Casady, Putnam County Hospital; Annette Casey, Missouri Baptist Medical Center; Donna Cash, North Kansas City Hospital; Angela Christesen, Salem Memorial District Hospital; Doug Clark, Hermann Area EMS; Karen Connell, DHSS; Monti Cooper, Southeast Missouri Hospital; Richard Cotter, Taney County Ambulance District; Mike D'Agostino, Metropolitan Ambulance Service Trust; Rich Dandridge, Warren County Ambulance District; Susan Davis, St. John's Mercy Medical Center; Jacqueline DeSouza, Research Medical Center; Linda Dean, Freeman Health System; Dr. Colin Derdeyn, Washington University; Liz Deken, American Heart Association; Lisa Donnelly, St. Luke's Hospital; Joan Drake, Staff for Life Helicopter; Mary Jo Draper, The Vandiver Group; Valerie Dutcher, Heartland Regional Medical Center; Katie Egan, Barnes Jewish Hospital; Jacqueline Euritt, Research Medical Center; Jason Fenton, ZOLL; Tonya Ferguson, Missouri American College of Cardiology; Kelly Ferrara, The Vandiver Group; Cindy Feutz, University of Missouri Hospital and Clinics; Michael French, Missouri Rural Health Association; Nick Frey, Stinson, Morrison & Hecker; Dolly Giles, Pike County Memorial Hospital; Dale Green, PRN Healthcare Consultants; Paul Guptill, Missouri Hospital Association; Robin Hamann, American Heart Association; Kathleen Henderson, St. Joseph Medical Center; Dr. Stuart Higano, Missouri Baptist Medical Center; Linda Hill, St. Anthony's Medical Center; Dr. Eric Hockstad, Research Medical Center; Sara Howard, The Vandiver Group; Judy James, American Heart Association; Freida Juliano, Hannibal Regional Hospital; Shelleen King, St. Luke's Hospital of Kansas City; Dr. George Kichura, St. John's Mercy Heart & Vascular; Mary Ann Kirkpatrick, St. John's Hospital; Leigh Kite, University Hospital and Clinics; Mary Kleffner, DHSS; Dr. Michael Klevens, St. Luke's Hospital; Brenda Knight, Putnam County Memorial Hospital; Ken Koch, St. Charles County Ambulance District; Julie Kopp, Hermann Area District Hospital; Andrea Kuensting, University Hospital and Clinics; Carol Lacy, Salem Memorial Hospital; Kathy Lainhart, St. Luke's Hospital of Kansas City; Michael Lambert, University of Missouri Health Care; Michelle Leassner, Des Peres Hospital; Dr. Gwen Lehlertmer, Sanofi-Aventis Pharmaceuticals; Jennifer Lembeck, Sanofi-Aventis Pharmaceuticals; Bonnie Linhardt, American Heart Association; Dean Linneman, DHSS; Jason Lynch, St. John's Mercy Medical Center; Kirk McCarty, Research Medical Center; Bryant McNally, Missouri Hospital Association; Polly McNeece, Research Medical Center; Deborah Markenson, DHSS; Dr. Steve Marso, Cardiovascular Consultants; Chris Medlin, Capital Region Medical Center; Bill Meeker, Laredo Fire Department; Ruby Mehrer, Lifeflight Eagle; Linda Meyer, Hermann Area District Hospital; Michele Meyer, Des Peres Hospital; Taz Meyer, St. Charles County Ambulance District; George Miller, Boone County Fire Protection District; Michelle Miller, Missouri Foundation for Health; Eric Mills, University Hospital Ambulance Service; Dedie Moore, Ozark Medical Center; Greg Natsch, DHSS; Carol Nierling, University Hospital and Clinic; Tony Nunn, St. Luke's Hospital of Kansas City; Peggy Parks, Northeast Regional Medical Center; Cynthia Peters, St. Mary's Medical Center; Joe Piskulic, Jefferson Memorial Hospital; Regine Politte, Jefferson Regional Medical Center; Sharon Pulver, St. Joseph Health Center; Pam Ragan, Cedar County Memorial Hospital; Phil Renner, Pike County Memorial Hospital; Dr. Danelle Richards, St. John's Hospital-Lebanon; Lisa Riggs, St. Luke's Health System; Dr. John Russell, Cape County Private Ambulance Service; Jack Ryan, Philips Healthcare; Dr. Marilyn Rymer, St. Luke's Hospital; Twany Sandifer, Capital Region Medical Center; Barb Seagrass, Des Peres Hospital; Heather Seemann, SSM St. Clare Health Center; Dr. Niranjana Singh, University of Missouri School of Medicine; Rudy Snedigar, Barton County Memorial Hospital; Sondra Solomon, Barnes-Jewish Hospital; Andrew Spain, University of Missouri Hospital and Clinics; Edward Spain, St. John's Regional Health Center; Lori Spight, Research Medical Center; Debby Sprandel, St. Francis Medical Center; David Stagner, St. Francis Medical Center; Chad Staley, Montgomery County Ambulance District; Mickey Stout, St. John's Hospital – Lebanon; Debbie Summers, St. Luke's Brain and Stroke Institute; Dr. David Tan, Barnes Jewish Hospital; Nancy Terveer, Missouri Baptist Medical Center; Jennifer Thomas, Freeman Hospital; Kathy Vickery, Southeast Missouri Hospital; Phyllis Vos, Research Medical Center; Michael Wallace, Central Jackson County Fire Protection District; Terri Waters, The Vandiver Group; Lori Wayne, Truman Medical Center; Chris Weaver, Texas County Memorial Hospital; Denise Webber, St. Mary's Health Center; Dr. Richard Webel, University of Missouri Health Care; Marilyn Welling, St. John's Regional Medical Center; Jason White, Metropolitan Ambulance Service Trust; Steve Woods, Des Peres Hospital; Darrell Wright, Chillicothe Emergency Services; George Wright, Salt River Ambulance District; Monroe Yancie, St. Louis Fire Department; Tony Young, Texas County Memorial Hospital; and Beverly Smith, DHSS.

General Information

A total of 140 people attended the sixth meeting of the Time Critical Diagnosis (TCD) Stroke and STEMI System implementation process. Dr. Muzaffar welcomed the group and reviewed the accomplishments to date which include completion of criteria for stroke and STEMI centers, working draft of stroke regulations, first draft of STEMI regulations, and draft protocols for dispatch for time critical patients, EMS triage and transport, and inter-facility transfers.

The Missouri Foundation for Health and The Vandiver Group hosted legislative tours in five cities—Columbia, Kansas City, Springfield, St. Charles, and Cape Girardeau. Through these tours, legislators observed first-hand the steps of the process for emergency medical care for stroke and STEMI patients. Those attending reported a better understanding of the TCD system and expressed appreciation for the opportunity.

Critical Access Hospitals

Linda Black, Director of Nursing, Pike Memorial County Hospital in Louisiana provided an overview of the services her hospital offers and how they link with larger facilities when the patient's condition warrants transfer. Dolly Giles presented a case study of a patient that presented at Pike Memorial County Hospital with a stroke. Staffs were able to quickly assess, begin treatment and transfer the patient to St. Louis. She reported that due to their participation in the implementation meetings they have recently updated protocols to assure timely management of this condition. This patient made a full recovery.

Dr. Stephen Casady, Chief of Staff at the Putnam County Hospital in Unionville provided additional detail on the functions and purpose of critical access hospitals and the capacity at Putnam County Hospital. He showed how far away his region is from hospitals that have level I and II center capabilities. He also shared information from a quality assurance survey that they conducted at their hospital. He stated there are advantages to include a level IV center as part of the TCD system based on his experiences in the Putnam County area.

Helicopter Early Launch Process

Ruby Mehrer, Lifeflight Eagle, Kansas City, provided an overview of the Helicopter Early Launch Process (HELP) that have been compiled by the State Advisory Council for Emergency Medical Services, Air Ambulance Subcommittee. She reviewed the broad range of issues that impact early launch decisions. The Air Ambulance Subcommittee wanted to provide clear information for medical dispatchers on the conditions that warrant consideration for early launch of a helicopter to transport the patient. The group was asked to review this process in relation to which stroke and STEMI patients and what settings would warrant an early launch of a helicopter and offer recommendations for the HELP document if needed.

Differences in Center Designation Levels

Dr. Muzaffar provided an overview of the definition that is used for trauma centers in Missouri. This provided background on how another arm of the TCD system defines designated centers in Missouri and supported the meeting objective to define both stroke and STEMI centers and clearly distinguish the differences between the four levels of capacity.

The group divided into stroke and STEMI work groups to review the differences between levels of the respective centers. This discussion provided a “chapter summary” for the work done by the stroke and STEMI work groups on criteria for centers. Attachment 1, *Differences between Stroke and STEMI Center Levels*, shows the core capacity proposed by the two work groups for each level. In general, there was consensus on these documents. Discussion issues that were raised by the work groups included:

Stroke Center-Level I

- General agreement with the definition and components.
- Level I centers align with those standards established for Comprehensive Stroke Centers by the Brain Attack coalition. (reference Stroke 2005;36: 1597-1618)
- Research is a key element that distinguishes Level I from Level II centers. Clear definition of research required was requested. Participation in clinical trials is not required.
- American Heart Association (AHA) representative stated that AHA supports two-tier system which combines Level I and Level II together and Level III and Level IV together.

Stroke Center-Level II

- Clarifications were added for specialized care with recommendation to have neurosurgery consultation services available within two hours.
- These centers follow Joint Commission (JC) standards for Primary Stroke Center Certification, yet will not be expected to obtain JC certification if certified by the State. (reference JAMA 2000; 283(23): 3102-3108.

Stroke Center-Level III

- Changed specification that emergency department physician be immediately available instead of requiring an in-house physician.
- Added requirement that diagnostic radiology (CT) be available on a 24/7 basis.
- This level represents a drip and ship facility.
- Clarification was requested regarding Emergency Medical Treatment and Active Labor Act (EMTALA) requirements in relation to exclusion criteria and bypassing the hospital that owns and operates their own ambulance service when patient’s condition may require care from a different hospital.

Stroke Center-Level IV

- Will transfer patients within the acute time window.

STEMI Center-Level I

- Concern was expressed regarding the inclusion of L-VAD as one of the requirements for this level. This has not been discussed at past meetings and it was stated that this is not a proven therapy.
- Recommended alternatives for those facilities that want to be designated at a Level I or Level II but do not yet meet PCI volume requirements. In cases where these facilities are close to meeting the volume requirement, within a yet to be defined range, and demonstrate quality of care based on yet to be

determined measures (e.g., proportion of STEMI patients that get PCI within recommended time frame) then the hospital can be designated as a STEMI center Level I or Level II as appropriate.

- Representatives from AHA stated that AHA believes that Levels I and Level II should be combined into one level with PCI volumes at current Level II standards. They also stated that Levels III and Level IV should be combined into one non-PCI (or lytics) level.

STEMI Level III

- Acceptance of all stroke and STEMI EMS transports was added to the policy section.
- Recommended that add same ICU requirements as Level I and Level II.

General Comments

- Rehabilitation—suggested that wording be changed for Levels I and Level II from available on campus to Phase I rehabilitation available.
- Helipad—revised this category heading to read designated helicopter landing area to correspond to terms used in trauma regulations.

Classification and Field Triage Protocols

Work groups reviewed the classification scheme and field triage guidance used for trauma patients to compile those same guidance documents for stroke and STEMI patients. The classification document is used to categorize patients by severity of symptoms. The field triage document provides guidance regarding where to transport patients based on the patient's severity of symptoms. These documents provide medical direction for the assessment, triage and transport functions that out-of-hospital personnel must perform.

Drafts had been developed for both the stroke and STEMI groups to use as a starting point. Through discussion, changes were made. Both groups will need to finalize decisions for these documents at the next meeting. General discussion points included:

STEMI (Attachment 2 & 3)

- The group proposed three levels of classification for STEMI patients. The most severe class is for those patients in cardiogenic shock. The more severe or second class consists of patients that exhibit at least two or three of the following symptoms- tachycardia, hypotension, or respiratory distress. If two of these symptoms are not present in someone with an ST-elevation they fall in the third class.
- There was considerable discussion on the transport time. This must be factored into making the determination regarding where each class of patient gets transported. In general it was agreed that if it takes longer than 15 (30, 60 or 90) minutes to transport a STEMI patient to a Level I or Level II center, then the patient should be taken to the closest Level III center that can administer lytics and ship the patient to the higher level if they do not have any capacity to provide PCI within a desired time frame. If the patient is in cardiogenic shock then they should be taken to the closest hospital for stabilization and then transferred as required by the patient's condition to the higher level facility that can provide definitive care.

STROKE

- The group discussed the field triage document and made modifications as shown on Attachment 4.
- The group also discussed and modified the inter-facility transfer protocol for stroke centers. (Attachment 5)

Out-of-Hospital- Professional Education

The group focused time on the professional education plans for out-of-hospital providers. A summary of the groups recommendations include:

- Develop broad complete goals and objectives, lesson plans, and support materials.
- Develop materials for the entire state, but allow regions to identify best methods to deliver training. There should be a broad “overview” module that is geared for everyone and more detailed training approaches for personnel that will be more extensively involved in provision of care to TCD patients.
- Establish a method to evaluate the training outcomes. The specific approaches to delivering the training will be based upon desired outcomes.
- The Federal Emergency Management Agency (FEMA) model for National Incident Management System (NIMS) is a good model for delivering this type of training. Another good model would be the defibrillation and glucose monitoring module developed by Department of Health and Senior Services.
- Develop a way to share materials developed by agencies across the state.

Professional Training

Professional training should be modified by content and level for different groups. Emergency medical dispatchers and medical directors should receive a broad overview of TCD principals, while field responders will need more detailed training. The specific groups to be trained include:

- Emergency Medical Technicians (EMT)
- Emergency Medical Technician-Paramedic (EMT-P)
- Medical director – need broad picture, getting patient to right place right time
- Emergency Medical Dispatcher (EMD)
 - Need to maintain certification as EMD
 - Provide basic overview for dispatch centers
 - Some EMD’s are not medically trained so would need to limit the level of detail
 - Include process chart or training on when to activate the early launch of helicopters
 - Provide overview of resources available for the TCD system
- Community subspecialists (cardiologists and neurologists)
 - Should be aware of availability of TCD system resources
 - Need to include communications with them
- Trained first responders
 - Same as EMD
 - In some regions, first responders may activate helicopters

Training Techniques

Overall, there should be complete goals and objectives, lesson plans, and support materials (e.g. PowerPoint). Use various methods to achieve goals, as listed below.

- Look for ways different groups can collaborate on training
- Use existing continuing education model
- Allow training in various ways as long as it meets goals, as is done with NIMS

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- Build on what is already there, no need to reinvent
- One idea presented was to have the respective designated centers assume the responsibility for training out-of-hospital providers since that designation requires outreach and education
- Create model that does not give advantages to hospitals that provide training
- Must have a hands-on component for training to teach motor skills – can't be entirely computer-based
- Need to have overall plan but let each region figure out how to meet objectives
- Sample approaches discussed:
 - Computer-based instruction
 - More accessible and practical
 - Price is right
 - To reduce cheating, Federal Emergency Management Association (FEMA) has made testing randomized and participants have to include basic identifying demographic information.
 - Access to internet can be problem in some areas
 - Self-paced written manual
 - Peer training
 - Hands-on practical sessions or classroom lectures
 - Get better results with in-person training and ability to answer participants' questions
 - More costly
 - May have inconsistent training
 - May want to certify instructors
 - Would need to detail what needs to be covered in classroom setting
 - Would need PowerPoint and other supporting resources
 - Combination of the above

Evaluation

- Assume there will be an evaluation to measure competencies. Must identify method to do this.
- If there will be a grade at the end, doesn't make any difference what training method is used as long as it gets desired outcomes

Overview of TCD:

- Use FEMA model for NIMS with an annual or biannual requirement
- TCD overview provides good first module for everyone in the system

Indications for Assessment -Assessment would be done by emergency medical service personnel, including EMT and EMT-P's:

STEMI patients

- Use of 12 lead EKG
- Assessment of chest pain, difficulty breathing, mental status, unexplained weakness

Stroke patients

- Use of Cincinnati scale
- Assessment of new seizures, altered loss of consciousness
- Use of protocols and algorithms

New principals related to stroke and trauma

- Use state training model for defibrillation and glucose monitoring

- Provide inclusion-exclusion criteria

Training tools

- Lesson plan
- Include needed resources and suggested methods for delivery
- Subgroup needs to develop

Training manual

- Statewide set of objectives
- Needs to be an overview of the TCD system (first module) – statewide for everyone
- Develop skeletal outline, not as detailed as lesson plan
- Can make training manuals web-based or live as long as meets goals
- State doesn't need to tell us how to meet objectives, just what they are

Closing

Reports on the respective work groups' discussion were provided. After the May meeting smaller work groups will continue to complete the following activities:

1. Review of the draft stroke regulations
2. Review of the draft STEMI regulations
3. Compile detailed plan for professional education for out-of-hospital providers
4. Compile detailed plan for professional education for physicians and health care providers.
5. Compile detailed plan for quality assurance for stroke components of TCD system from out-of-hospital through hospital steps of the process.
6. Compiled detailed plan for quality assurance for STEMI component of TCD system from out-of-hospital through hospital steps of the process.

Individuals that are interested in participating in one of these groups were asked to sign-up or indicate their interest to Beverly Smith, at the Missouri Department of Senior Services (Beverly.Smith@dhss.mo.gov or 573-526-0723).

Evaluation comments that impacted the plans for this meeting were reviewed with the group.

- All handouts were available on-line on the Department's website before the meeting.
- Work sheets were provided for each of the groups to track activities.
- Additional information was provided on the role of critical access hospitals.
- Clarification was provided on the voluntary nature of center designation. The regulations will include language, as is currently in the trauma center regulations, stating: "Participation in Missouri's stroke/STEMI center program is voluntary and no hospital shall be required to participate."

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DIFFERENCES BETWEEN STROKE AND STEMI CENTER LEVELS

Level and Criteria	STEMI	Stroke
Level I Center		
1. Emergency Department (ED)	<ul style="list-style-type: none"> May be by-passed to go directly to cardiac catheterization lab 24/7 in-house (IH)ED physician 	<ul style="list-style-type: none"> May be by-passed to go directly to Interventional Radiology 24/7 in-house (IH)ED physician
2. Intensive Care Unit	<ul style="list-style-type: none"> With Cardiology expertise and support for further advanced treatment Generally accepted ICU equipment 	<ul style="list-style-type: none"> With stroke/neurology expertise and support for further advance treatment Equipment
3. Specialized Care	<ul style="list-style-type: none"> L-VAD with advance support 24/7 Cardiac Artery Bypass Graft promptly available 24/7 Cardiac catheterization lab, angiography & interventional capabilities (PA) Available consultation services for region 	<ul style="list-style-type: none"> 24/7 Neurointerventional capability/angiography/IR (PA) 24/7 Neurology 24/7 NSG coverage (PA) 24/7 Diagnostic Radiology (CT (IH)/MRI available) Available consultations services for region
4. Surgery	<ul style="list-style-type: none"> Cardiac surgery back up 24/7 	<ul style="list-style-type: none"> Neurosurgery; vascular surgery; endovascular experts
5. Inpatient beds	X	X
6. Rehabilitation Services available (Phase 1)	X	X
7. Higher volumes of care	400 Elective PCI/year * alternatives will be considered to establish L1 criteria if 400 is not achieved	
	>49 Primary PCIs* alternatives will be considered to establish L1 criteria if >49 is not achieved	
8. Performance Expectations- meet quality measures	X	X
9. Personnel- Advanced training and certifications to support specialized services	X	X
10. Designated helicopter landing area	X	X
11. Equipment- Appropriate for advanced level of care	X	X
12. Policy		
<ul style="list-style-type: none"> Accept all stroke & STEMI transfers 	X	X
<ul style="list-style-type: none"> One call access to activate transfer 	X	X
<ul style="list-style-type: none"> One-call access for activation of specialized services 	X	X
<ul style="list-style-type: none"> Make arrangements for repatriation to community hospital, if indicated 	X	X
13. Community Education	X	X
14. Research	X	X

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Level and Criteria	STEMI	Stroke
Level II Center		
1. Emergency Department	May be by-passed to go directly to cardiac catheterization lab 24/7 in-house (IH)ED physician	24/7 in-house (IH)ED physician
2. Intensive Care Unit	<ul style="list-style-type: none"> With Cardiology expertise and support for further advanced treatment Generally accepted ICU equipment 	X
3. Specialized Care	<ul style="list-style-type: none"> 24/7 Cardiac catheterization lab, angiography and interventional capabilities, PA 	<ul style="list-style-type: none"> 24/7 neurology (PA) 24/7 Diagnostic Radiology (CT (IH) /available MRI) Neurosurgery consultation services within 2 hours
4. Inpatient beds	X	X
5. Rehabilitation Services Available (Phase 1)	X	X
6. Volumes of care	At least 200 Elective PCI/year (alternatives will be considered to establish L2 criteria if 200 is not achieved)	
	>36 Primary PCIs (alternatives will be considered to establish L2 criteria if >36 is not achieved)	
7. Performance Expectations- Meet quality measures	X	X
8. Personnel- Advanced training and certifications to support specialized services	X	X
9. Designated helicopter landing area,	X	X
10. Equipment- Appropriate for advanced level of care	X	X
11. Policy		
<ul style="list-style-type: none"> Accept all stroke and STEMI transfers One call access to activate transfer One-call access for activation of specialized services Make arrangements for repatriation to community hospital, if indicated 	X X X X	X X X X
12. Community Education	X	X

Differences from Level I

- Fewer specialized care requirements
- Lower PCI volumes
- No research requirement

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Level and Criteria	STEMI	Stroke
Level III Center		
1. Emergency Department	<ul style="list-style-type: none"> 24/7 in-house (IH) physician 	<ul style="list-style-type: none"> 24/7 physician-IA
2. Intensive Care Unit	<ul style="list-style-type: none"> With Cardiology expertise and support for further advanced treatment Generally accepted ICU equipment 	
3. Specialized Care	<ul style="list-style-type: none"> Must have rapid transfer protocol in place and capability to administer lytics to eligible patients, and stabilize If PCI not promptly available, immediately transfer to a PCI designated facility. (Drip and ship) 	<ul style="list-style-type: none"> Drip and ship 24/7 Diagnostic Radiology (CT)
4. Inpatient beds	X	X
5. Performance Expectations- Meets quality measures	<ul style="list-style-type: none"> If PCI is available, all reperfusion indicators will be reported X	X
6. Personnel- training and certifications to support specialized services	X	X
7. Helicopter Designated Landing Area	X	X
8. Equipment- Appropriate for level of care	X	X
9. Policy		
<ul style="list-style-type: none"> One call access to activate transfer 	X	X
<ul style="list-style-type: none"> Accept all appropriate stroke and STEMI EMS transports per destination protocols 	X	X
<ul style="list-style-type: none"> One call access to activate 	X	X
<ul style="list-style-type: none"> Make arrangements for repatriation to community hospital, if indicated 	X	X
10. Community Education	X	X

Differences from Level II

- Generally drip and ship facilities
- For STEMI patients, potential to keep when PCI is promptly available; transfer where warranted, not source for primary PCI on emergency basis

Level and Criteria	STEMI	Stroke
Level IV Center		
1. Emergency Department	24/7, IA physician	24/7, IA physician
2. Specialized Care	<ul style="list-style-type: none"> Stabilize life-threatening conditions when in proximity Must have rapid transfer protocol in place and capability to administer lytics to eligible patients & stabilize 	<ul style="list-style-type: none"> Stabilize life-threatening conditions when in proximity Triage and transfer
3. Personnel- training and certifications to support services	X	X
4. Equipment- Appropriate for level of care	X	X
5. Helicopter landing site	X	X
6. Performance Expectations- Meet quality measures	X	X
7. Policy <ul style="list-style-type: none"> One call access to activate transfer 	X	X
8. Community Education	X	X

Difference from Level III

- Services to support patient stabilization and rapid transfer to a higher level center.

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STEMI CLASSIFICATION CATEGORIES

Class I

- Elevated ST on ECG and Cardiogenic shock, impending arrest

Class II

- Elevated ST on ECG and exhibit two of the following additional symptoms:
 - Tachycardia, Heart Rate > 120
 - Hypotension, Systolic Blood Pressure < 90
 - Respiratory Distress, <10 or >29

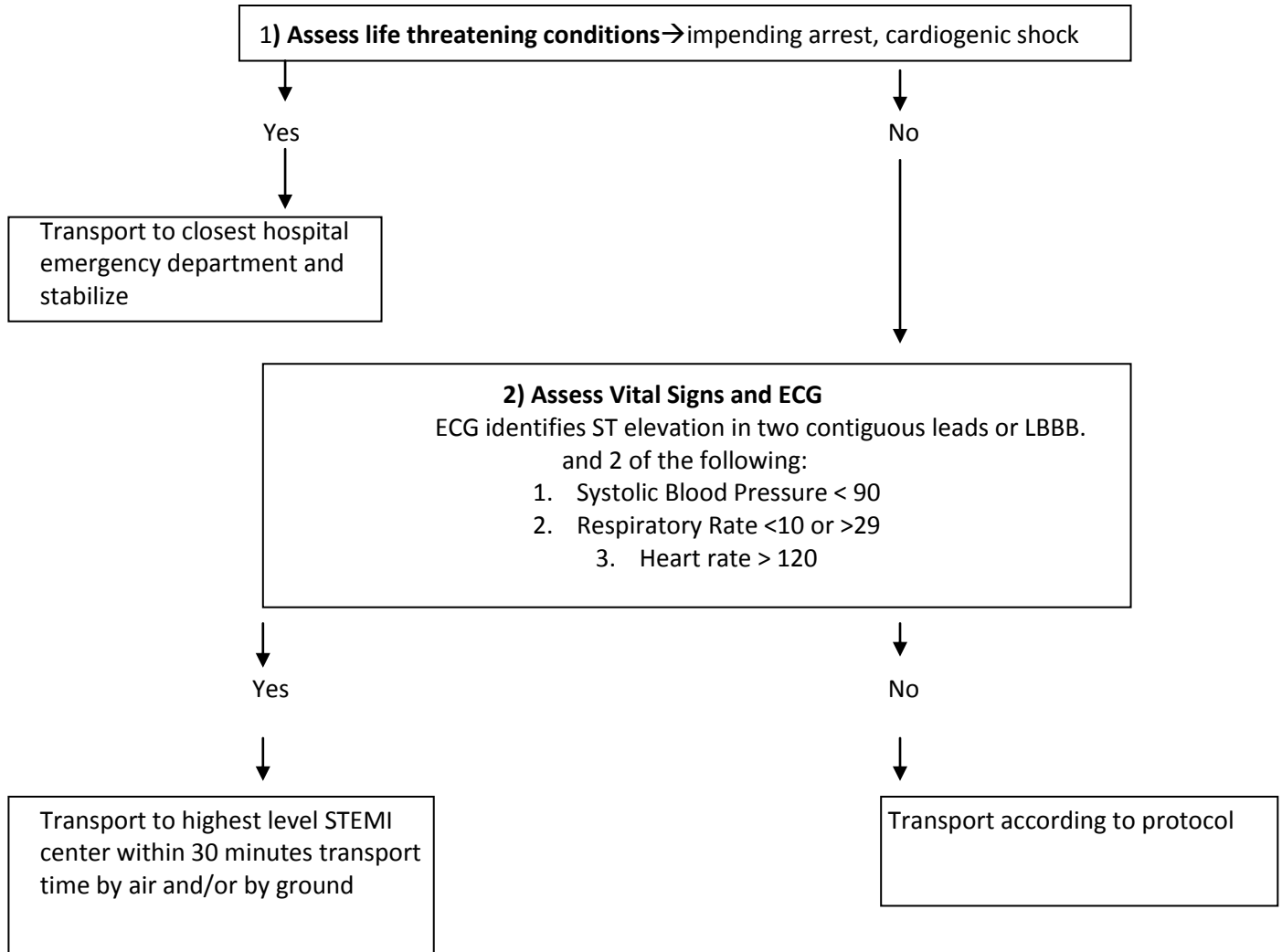
Class III

- Elevated ST on ECG
- Signs and symptoms of acute coronary syndrome

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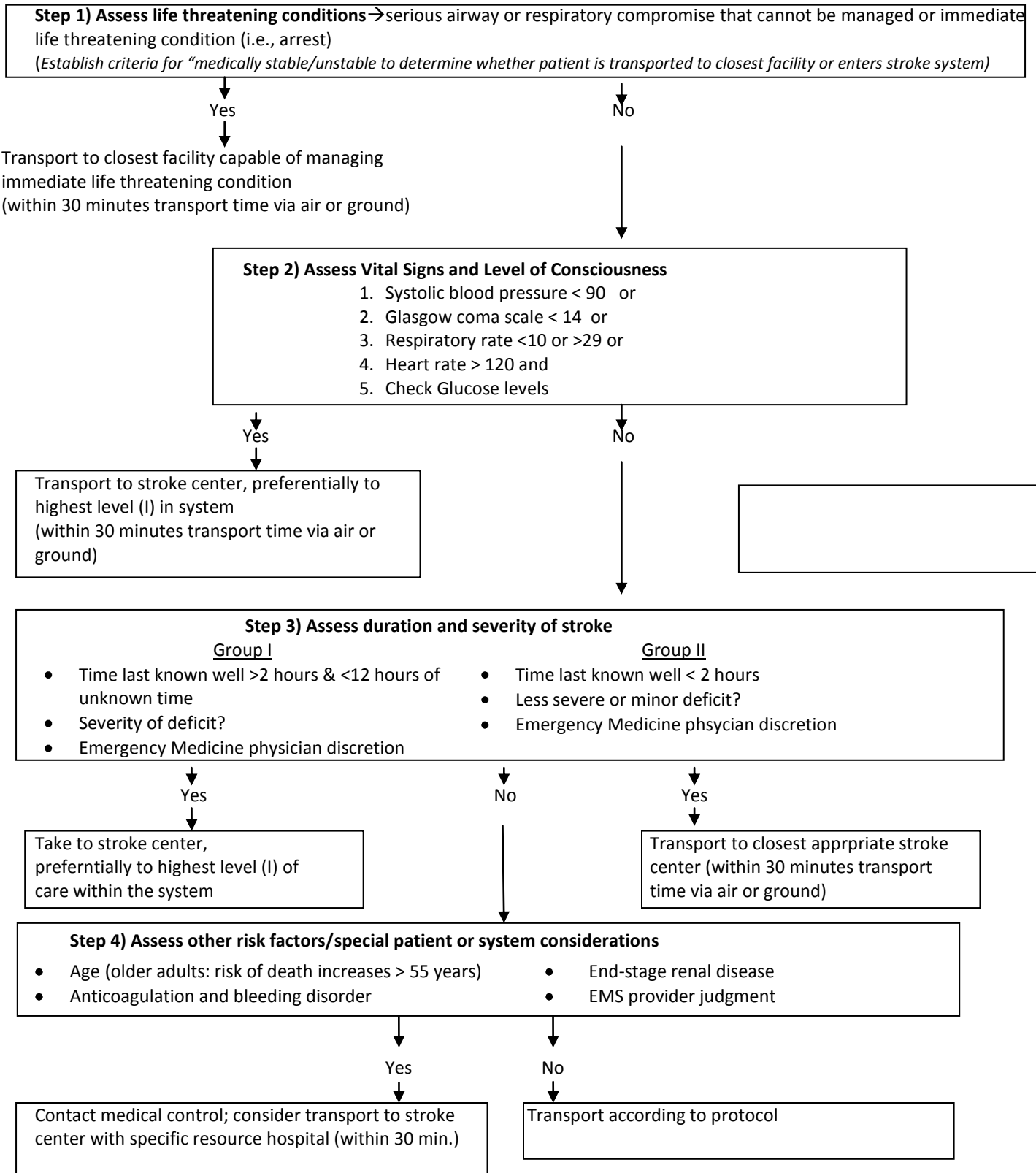
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STEMI Field Triage Guidelines



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Stroke Field Triage Guidelines



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**STROKE LEVEL 2 INTER-FACILITY TRANSFER PROTOCOL-tPA
(FDA approved stroke lytics)**

Patient Care Communication Hand-off

1. Make sure to get a phone number where someone knowledgeable of the patient's current condition and health history can be contacted immediately (preferably a cell phone).
2. Time Stamps/documentation
3. Ongoing orders
4. Contact information for sending and receiving facilities (sending/receiving report/accepting physician)
5. Specific location destination (room, department)

Time stamps

1. Last known well (normal)
2. Arrival time
3. CT (when completed and when read/reviewed)
4. Document and review with transport team: lytics bolus, infusion, and expected completion time (determine tPA protocol/tool kit).
5. Documentation of every 15 minute neuro checks and vital signs.

➡ **END POINT**

If condition deteriorating, contact receiving hospital for medical control and discontinue lytics

1. Contact receiving facility and notify of suspected or confirmed stroke patient as soon as possible.
2. Establish 2 PIVs (preferably 18ga AC)
3. Perform an expanded stroke exam if time and patient condition will allow (regional recommendation).
4. Do not treat hypertension without specific approval from the receiving facility.
5. Patient should be transported with head flat, unless risk of aspiration is present or hemorrhagic stroke.
6. Patient handoff to receiving facility should include:
 - Patient assessment and condition upon arrival, including time of onset;
 - Care provided;
 - Changes in condition following treatment and specific immediate family contact information.
7. No anti-platelets, no anti-coagulants.